



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/569,017

02/23/2006

Robert Frans Maria Hendriks

FR 030093

1656

24737

7590

10/30/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

RUSH, ERIC

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

10/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/569,017

Applicant(s)

HENDRIKS ET AL.

Examiner

Eric Rush

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 24 January 2007.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 3, 7, 9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. U.S. Patent No. 5,982,914.

- With regards to claim 1, Lee et al. teach a biometrical identification system for identifying an individual finger, said finger comprising an inside surface, said device comprising: acquisition means for acquiring an intra skin image, (Lee et al., Column 4 Lines 15 – 21 and Lines 37 – 43) said intra skin image being located inside the finger at a distance from the inside surface of the finger, (Lee et al., Column 4 Lines 15 – 21, “Macrofeatures also include subdermal physical characteristics...”) said intra skin image comprising sweat pores, (Lee et al., Column 4 Lines 44 – 45) location means for locating said sweat pores as isolated spots in said intra-skin image, (Lee et al., Column 4 Lines 44 – 45) matching means for matching said pore locations with reference pore locations of a reference intra skin image to produce a pore correlation score, (Lee et al., Figs 5A, 5B, 6, & 7, Column 6 Line 39 – Column 7 Line 3) decision means for deciding of a

Art Unit: 2624

successful or fail pore-based identification from a comparison of the pore matching score with a predetermined pore threshold. (Lee et al., Column 8 Lines 19 – 26)

- With regards to claim 2, Lee et al. teach a biometrical identification device as claimed in claim 1, wherein said intra-skin image comprises fingerprint ridges and said device further comprises: macrofeature location means for locating macro-features located on said fingerprint ridges, (Lee et al., Fig 6, Column 4 Lines 37 - 45) macrofeature matching means for matching said macro-feature locations with reference macrofeature locations to produce a macro-feature matching score, (Lee et al., Figs 5A & 5B, Column 7 Line 30 – Column 89 Line 26) macrofeature decision means for deciding successful or failed macrofeature-based identification from a comparison of the macrofeature matching score with a predetermined macrofeature threshold. (Lee et al., Column 8 Lines 19 - 26)
- With regards to claim 3, Lee et al. a biometrical identification device as claimed in claim 2, wherein the pore location means are intended to locate the sweat pores with respect to the macrofeatures. (Lee et al., Column 7 Lines 21 – 40 and Lines 51 – 58)

- With regards to claim 7, Lee et al. teach a biometrical identification device as claimed in claim 1, wherein first pore locations corresponding to a first intra-skin focused image are used as an initialization for locating pores of a second intra-skin focused image. (Lee et al. Column 6 Lines 39 – 53)

- With regards to claim 9, Lee et al. teach a device for producing an intra-skin image of an individual finger, (Lee et al., Column 4 Lines 15 – 21 and Lines 37 – 43) said intra-skin image comprising sweat pores for use in biometrical identification of said individual finger, (Lee et al., Column 4 Lines 44 – 45) said device comprising: placement means for placing an inside surface of the individual finger in front of acquisition means, (Lee et al., Column 4 Lines 36 – 44, the acquisition means disclosed by Lee et al. such as the capacitance-based fingerprint sensor have placement means included therein) said acquisition means for acquiring said intra-skin image, (Lee et al., Column 4 Lines 36 – 44) said intra-skin image being located inside the finger at a distance from the inside surface of the finger, (Lee et al., Column 4 Lines 15 – 21, “Macrofeatures also include subdermal physical characteristics...”) storage means for storing the intra-skin image into a memory. (Lee et al., Column 4 Lines 21 – 26, The Examiner also states that for comparisons of fingerprint images with reference images to take place the acquired image must be stored)

Art Unit: 2624

- With regards to claim 11, Lee et al. teach a method of identifying an individual finger comprising the steps of: acquiring at least an intra-skin image of the individual finger, (Lee et al., Column 4 Lines 15 – 21 and Lines 37 – 43) said intra-skin image being located at a distance inside the finger and comprising pores, (Lee et al., Column 4 Lines 15 – 21 & Lines 44 - 45, “Macrofeatures also include subdermal physical characteristics...”) locating said pores as isolated spots in said intra-skin focused image, (Lee et al., Column 4 Lines 44 – 45) matching said pore locations with reference pore locations of a reference intra-skin focused image to produce a correlation score, (Lee et al., Figs 5A, 5B, 6, & 7, Column 6 Line 39 – Column 7 Line 3) deciding of a successful or failed pore-based identification from a comparison of the pore matching score with a predetermined pore threshold. (Lee et al., Column 8 Lines 19 – 26)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 2624

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 4, 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. U.S. Patent No. 5,982,914 as applied to claims 1 and 9 above, and further in view of Beesley et al. "Fingerprint Imaging with a Confocal Scanning Laser Microscope", JFSCA, Vol. 40 No. 1, January 1995, Pages 10-17.

- With regards to claim 4, Lee et al. teach a biometrical identification device as claimed in claim 1. Lee et al. fail to teach wherein the acquisition means comprise: a radiation source for generating a radiation beam, focusing means for focusing said radiation beam at the distance from inside surface of the finger, detecting means for detecting a reflected radiation beam reflected by the finger. Beesley et al. teach wherein the acquisition means comprise: a radiation source for generating a radiation beam, (Beesley et al., Abstract, Fig. 1A) focusing means for focusing said radiation beam at the distance from inside surface of the finger, (Beesley et al., Page 10 "Description of the Confocal Scanning Laser Microscope" Paragraphs 1 - 2, the microscope has focusing means and a reasonable interpretation of inside surface of the finger is the valleys of a fingerprint compared to the ridges) detecting means for detecting a reflected radiation beam reflecting by the finger. (Beesley et al., Fig. 1A, D1 and D2,

Page 10 "Description of the Confocal Scanning Laser Macroscope"

Paragraphs 1 - 2) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Lee et al. to include the teachings of Beesley et al. This modification would have been prompted because Lee et al. disclose, in Column 4 Lines 38 – 43, that the images can be obtained from a variety of sources and the utilization of the device taught by Beesley et al. would have a reasonable expectation of success if employed in the system of Lee et al.

- With regards to claim 6, Lee et al. in view of Beesley et al. teach a biometrical identification device as claimed in claim 4. Lee et al. fail to teach wherein said acquisition means comprise a confocal microscope. Beesley et al. teach wherein said acquisition means comprise a confocal microscope. (Beesley et al., Page 10 "Description of the Confocal Scanning Laser Macroscope" Paragraphs 1 – 2)
- With regards to claim 10, Lee et al. teach a device as claimed in claim 9. Lee et al. fail to teach the device comprising a confocal microscope. Beesley et al. teach a fingerprint identification device comprising a confocal microscope. (Beesley et al., Abstract, Fig. 1A, Page 10 "Description of the Confocal Scanning Laser Macroscope" Paragraphs 1 - 2) It would have been obvious to one of ordinary skill in the art at the time

of the invention to modify the teachings of Lee et al. to include the teachings of Beesley et al. This modification would have been prompted because Lee et al. disclose, in Column 4 Lines 38 – 43, that the images can be obtained from a variety of sources and the utilization of the device taught by Beesley et al. would have a reasonable expectation of success if employed in the system of Lee et al.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. U.S. Patent No. 5,982,914 in view of Beesley et al. "Fingerprint Imaging with a Confocal Scanning Laser Microscope", JFSCA, Vol. 40 No. 1, January 1995, Pages 10-17 as applied to claim 4 above, and further in view of Dickinson et al. U.S. Patent No. 6,049,620.

- With regards to claim 5, Lee et al. in view of Beesley et al. teach a biometrical identification device as claimed in claim 4. Lee et al. fail to teach wherein the focusing distance from the inside surface of the finger is greater than 0.1 and less than 0.5 mm. Dickinson et al. teach wherein the focusing distance from the inside surface of the finger is greater than 0.1 and less than 0.5 mm. (Dickinson et al. Column 6 Lines 38 - 44) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Lee et al. in view of Beesley

et al. to include the teachings of Dickinson et al. This modification would have been prompted in order to only photograph the valleys of a fingerprint which lie approximately 100 microns or 0.1mm from the outside surface, the ridges, of a typical fingerprint.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. U.S. Patent No. 5,982,914 as applied to claim 2 above, and further in view of Prokoski U.S. Patent No. 6,920,236.

- With regards to claim 8, Lee et al. teach a biometrical identification system as claimed in claim 2. Lee et al. teach a second macrofeature matching means for matching said second macro-feature locations with superficial reference macrofeature locations to produce a superficial macrofeature matching score, (Lee et al., Column 6 Lines 39 – 65) second macrofeature decision means for deciding of a successful or failed superficial macrofeature-based identification from a comparison of the superficial macrofeature matching score with a second predetermined macrofeature threshold, (Lee et al., Column 6 Lines 10 – 30) second pore location means for locating said sweat pores as isolated spots in said superficial image, (Lee et al., 6 Lines 10 – 16) second pore matching means for matching said second pore locations with superficial reference pore locations of a reference superficial image to produce a superficial pore

matching score, (Lee et al., Column 7 Line 59 – Column 8 Line 9) second pore decision means for deciding of a successful or failed superficial pore-based identification from a comparison of the superficial pore matching score with a second predetermined pore threshold, (Lee et al., Column 6 Lines 10 – 30, Column 7 Line 59 – Column 8 Line 9) global decision means for deciding of a successful or failed finger identification using the macrofeature-based identification, the pore-based identification, the superficial macrofeature-based identification and the superficial pore-based identification. (Lee et al., Column 7 Lines 30 – 63) Lee et al. fail to teach a system comprising: second acquisition means for acquiring a superficial image of the inside surface of the finger, and second macrofeature location means for locating macrofeatures located on said fingerprint ridges, (Prokoski, Fig 13 Elements 308 and 408) Prokoski teaches a second acquisition means for acquiring a superficial image of the inside surface of the finger, (Prokoski, Abstract, Column 6 Lines 20 – 31) and second macrofeature location means for locating macrofeatures located on said fingerprint ridges, (Prokoski, Fig 13 Elements 308 and 408). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Lee et al. to include the teachings of Prokoski. This modification would have been prompted in order to increase reliability in verification by having multi-images from

Art Unit: 2624

different sources to get an average correlation score to compare to a threshold.

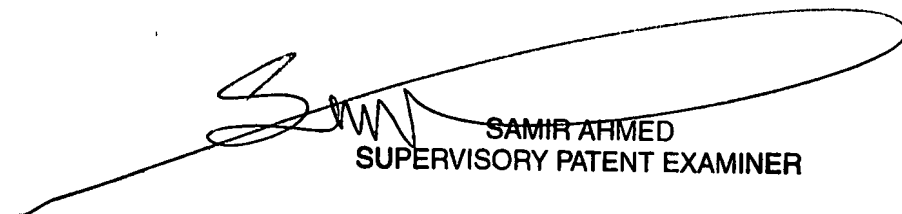
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Rush whose telephone number is (571) 270-3017. The examiner can normally be reached on 7:30AM - 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ER



SAMIR AHMED
SUPERVISORY PATENT EXAMINER